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## IN THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

## **Listing of Claims:**

1. (Currently amended) An addressing mechanism, comprising:

a first set of parallel co-planar conductive control lines, wherein each <u>conductive</u> control line of said first set of conductive control lines has an adjustable in-line impedance configured to

exhibit either a low in-line impedance state or a high in-line impedance state;

a second set of parallel co-planar conductive control lines, wherein said second set of

conductive control lines are spaced apart in relation to said first set of conductive control lines,

wherein a plane of said second set of conductive control lines is parallel to a plane of said first

set of conductive control lines, wherein conductive control lines of said second set of conductive

control lines cross over the conductive control lines of said first set of conductive control lines

thereby forming a plurality of crossover regions points in an inactivated state, wherein each of

the plurality of crossover regions points is operable to be actuated to an activated state

constituting a threshold device;

a first select mechanism configured to selectively adjust the in-line impedance of a

selected control line of said first set of conductive control lines from the high in-line impedance

to the low in-line impedance state for a duration of a time cycle, whereas the in-line impedance

of the remaining non-selected conductive control lines of said first set of conductive control lines

have the high in-line impedance state; and

a first voltage signal source configured to simultaneously apply a first drive voltage to all

control lines of said first set of conductive control lines to electrically charge said first set of

conductive control lines; and

a second select mechanism configured to selectively apply (1) a second drive voltage to

zero or more control lines of said second set of conductive control lines to electrically charge

said zero or more control lines, and (2) a third drive voltage to the remaining control lines of said

second set of conductive control lines to electrically discharge said remaining control lines,

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wherein prior to the time cycle (1) all control lines of said first set of conductive control lines exhibit the high in line impedance state, (2) the first drive voltage is simultaneously applied to all control lines of said first set of conductive control lines, (3) the second drive voltage is applied to the zero or more control lines of said second set of conductive control lines, and (4) the third drive voltage is applied to the remaining control lines of said second set of conductive control lines

a second select mechanism configured to encode activation data and selectively apply a high or low drive voltage to each conductive control line of said second set of conductive control lines, wherein the second select mechanism is configured to apply said drive voltages simultaneously, in parallel and in synchronization with the first select mechanism, such that:

at the non-selected conductive control lines of said first set, the high impedance state curtails rapid charge accumulation and the threshold devices at the crossover points do not traverse an activation threshold; and

at the selected conductive control line of said first set, the conjunction of the high drive voltage and the low in-line impedance of the selected conductive control line of said first set causes the threshold device to charge to a value above the activation threshold, thereby turning the threshold device associated with that crossover point into an activated threshold device.

- 2. (Previously presented) The addressing mechanism as recited in claim 1, wherein said first select mechanism is further configured to selectively toggle each control line of said first set of conductive control lines between the high in-line impedance state and the low in-line impedance-state.
- 3. (Currently amended) The addressing mechanism as recited in claim 2, wherein said first select mechanism further comprises:
- a row select sequencer configured to select the selected control line and initiate the time cycle;

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a clock mechanism configured to determine the duration of the time cycle wherein the selected control line is in said low in-line impedance state; and

a synchronizing mechanism configured to parallel load data to each control line of said second set of conductive control lines <u>in synchronization with the row select sequencer prior to the time cycle</u>.

- 4. (Currently amended) The addressing mechanism as recited in claim 1, wherein for the duration of the time cycle the first select mechanism adjusts the impedance of the selected control line to the low in line impedance state thereby making the selected control line addressable, and wherein during the time cycle each of the plurality of crossover regions formed by the low in-line impedance selected control line and said zero or more control lines of said second set of conductive control lines actuates to the activated state by electrically charging each of said crossover regions so as to exceed an activation threshold, wherein during the time cycle each of the plurality of crossover regions formed by the low in-line impedance selected control line and said remaining control lines of said second set of conductive control lines discharges to the inactivated state by electrically discharging each of said crossover regions below a deactivation threshold the time cycle for selectively charging and discharging said crossover point between a conductive control line of said first set in the high impedance state and a conductive control line of said second set is sufficiently short such that an active threshold device will not be deactivated and an inactive threshold device will not be activated, wherein said time cycle for selectively charging and discharging said crossover point between a conductive control line of said first set in the low impedance state and a conductive control line of said second set is sufficiently long such that an active threshold device will discharge to below an activation threshold thereby forming a deactivated threshold device, and an inactive or deactivated threshold device will charge beyond said activation threshold thereby forming an activated threshold device.
- 5. (Currently amended) The addressing mechanism as recited in claim [[4]]1, wherein <u>said</u> plurality of said crossover points behave as variable capacitors, given that relative motion between the conductors forming each of said plurality of crossover points causes a local distance

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between said conductors to decrease, thereby increasing the capacitance in the vicinity of the crossover point the time cycle is not long enough to sufficiently charge or discharge any one of the remaining plurality of crossover regions formed by the high in line impedance remaining control lines of said first set of conductive control lines and each control line of said second set of conductive control lines past the activation threshold to switch from the inactivated state to the activated state or past the deactivation threshold to switch from the activated state to the

inactivated state.

6. (Currently amended) The addressing mechanism as recited in claim 1, wherein the conductive control lines in said second set of conductive control lines are equally split into two collinear, coplanar halves with sufficient physical separation to ensure electrical isolation between them the two halves thereby forming a first half set and a second half set, wherein the control lines in said first set of conductive control lines are equally divided between the first half

set and the second half set.

7. (Currently amended) The addressing mechanism as recited in claim 1, wherein a polarity of a field generated between <u>conductive</u> control lines of said first set of conductive control lines and <u>the conductive</u> control lines of said second set of conductive controls lines are reversed in a cyclic manner.

8. (Original) The addressing mechanism as recited in claim 7, wherein said polarity of said field is reversed in said cyclic manner by driving a pair of comparators from a voltage divider and oscillating a control logic signal distributed across appropriate reference potentials of

opposing polarity.

9. (Currently amended) The addressing mechanism as recited in claim 1, wherein each control line the conductive control lines of said first set of conductive control lines [[is]] are driven at both ends from the a common first voltage signal source, and wherein each of the zero or more the conductive control lines of said second set of conductive control lines [[is]] are driven at both ends from a common second voltage signal source, and wherein each of the

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remaining control lines of said second set of conductive control lines is driven at both ends from a third voltage signal source.

10. (Currently amended) The addressing mechanism as recited in claim [[6]]1, wherein a common voltage potential is applied to all conductive control lines of said first set the first drive voltage is applied to all control lines of said first set of conductive control lines, wherein the second select mechanism applies the second drive voltage to zero or more control lines in said first half set and the third drive voltage to the remaining control lines in said first half set, and wherein the second select mechanism concurrently applies the second drive voltage to zero or more control lines in said second half set and the third drive voltage to the remaining control lines in said second half set, and wherein the first select mechanism adjusts the in line impedance of both a first selected control line in said first half set and a second selected control line in said second half set to the low in line impedance state for the duration of the time cycle.

11. (Currently amended) The addressing mechanism as recited in claim [[1]]4, wherein each control line of said first set of conductive control lines comprises a material configured to selectively change its resistance across the entire control line

the activated threshold device at one crossover point is deactivated when a voltage difference between a voltage applied to the conductive control line of said first set and a voltage applied to the conductive control line of said second set is less than a deactivation threshold, and wherein

the deactivated threshold device at one crossover region is activated when a voltage difference between the voltage applied to the conductive control line of said first set and a voltage applied to the conductive control line of said second set exceeds the activation threshold, wherein the activation threshold is greater than the deactivation threshold.

12. (Currently amended) The addressing mechanism as recited in claim [[11]]1, wherein each conductive control line of said first set of conductive control lines comprises a material configured to selectively change its resistance across the entire control line, wherein said material of said first set of conductive control lines changes its resistance upon application of an

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appropriate voltage difference between a first <u>electrode</u> and a second <u>electrode</u> <u>eonductive line</u> spatially disposed on opposite sides of each <u>conductive</u> control line of said first set of conductive control lines.

13. (Original) The addressing mechanism as recited in claim 12, wherein said material comprises doped perovskites.

## 14. (Currently amended) A display, comprising:

a first set of parallel co-planar conductive control lines, wherein each <u>conductive</u> control line of said first set of conductive control lines has an adjustable in-line impedance configured to exhibit either a low in-line impedance state or a high in-line impedance state;

a second set of parallel co-planar conductive control lines, wherein said second set of conductive control lines are spaced apart in relation to said first set of conductive control lines, wherein a plane of said second set of conductive control lines is parallel to a plane of said first set of conductive control lines, wherein <u>conductive</u> control lines of said second set of conductive control lines cross over the <u>conductive</u> control lines of said first set of conductive control lines thereby forming a plurality of crossover <u>regions points</u> in an inactivated state, wherein each of the plurality of crossover <u>regions points</u> is operable to be actuated to an activated state constituting a threshold device;

a matrix of pixels overlapping between said first set of parallel co-planar conductive control lines and said second set of parallel co-planar conductive control lines;

a first select mechanism coupled to said matrix of pixels, wherein said first select mechanism is configured to selectively adjust the in-line impedance of a selected control line of said first set of conductive control lines from the high in-line impedance state to the low in-line impedance state for a duration of a time cycle, whereas the in-line impedance of the remaining non-selected conductive control lines of said first set of conductive control lines have the high in-line impedance state; and

a first voltage signal source configured to simultaneously apply a first drive voltage to all control lines of said first set of conductive control lines to electrically charge said first set of conductive control lines; and

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a second select mechanism coupled to said matrix of pixels, wherein said second select mechanism is configured to selectively apply (1) a second drive voltage to zero or more control lines of said second set of conductive control lines to electrically charge said zero or more control lines, and (2) a third drive voltage to the remaining control lines of said second set of conductive control lines to electrically discharge said remaining control lines,

wherein prior to the time cycle (1) all control lines of said first set of conductive control lines exhibit the high in-line impedance state, (2) the first drive voltage is simultaneously applied to all control lines of said first set of conductive control lines, (3) the second drive voltage is applied to the zero or more control lines of said second set of conductive control lines, and (4) the third drive voltage is applied to the remaining control lines of said second set of conductive control lines

a second select mechanism coupled to said matrix of pixels, wherein said second select mechanism is configured to encode activation data and selectively apply a high or low drive voltage to each conductive control line of said second set of conductive control lines, wherein the second select mechanism is configured to apply said drive voltages simultaneously, in parallel and in synchronization with the first select mechanism, such that:

at the non-selected conductive control lines of said first set, the high impedance state curtails rapid charge accumulation and the threshold devices at the crossover points do not traverse an activation threshold; and

at the selected conductive control line of said first set, the conjunction of the high drive voltage and the low in-line impedance of the selected conductive control line of said first set causes the threshold device to charge to a value above the activation threshold, thereby turning the threshold device associated with that crossover point into an activated threshold device.

15. (Previously presented) The display as recited in claim 14, wherein said first select mechanism is further configured to selectively toggle each control line of said first set of conductive control lines between the high in-line impedance state and the low in-line impedance state.

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16. (Currently amended) The display as recited in claim 15, wherein said first select mechanism further comprises:

a row select sequencer configured to select the selected control line and initiate the time cycle;

a clock mechanism configured to determine the duration of the time cycle wherein the selected control line is in said low in-line impedance state; and

a synchronizing mechanism configured to parallel load data to each control line of said second set of conductive control lines <u>in synchronization with the row select sequencer prior to the time cycle</u>.

17. (Currently amended) The display as recited in claim 14, wherein for the duration of the time cycle the first select mechanism adjusts the impedance of the selected control line to the low in line impedance state thereby making the selected control line addressable, and wherein during the time cycle each of the plurality of crossover regions formed by the low in line impedance selected control line and said zero or more control lines of said second set of conductive control lines actuates to the activated state by electrically charging each of said crossover regions so as to exceed an activation threshold, wherein during the time cycle each of the plurality of crossover regions formed by the low in-line impedance selected control line and said remaining control lines of said second set of conductive control lines discharges to the inactivated state by electrically discharging each of said crossover regions below a deactivation threshold the time cycle for selectively charging and discharging said crossover point between a conductive control line of said first set in the high impedance state and a conductive control line of said second set is sufficiently short such that an active threshold device will not be deactivated and an inactive threshold device will not be activated, wherein said time cycle for selectively charging and discharging said crossover point between a conductive control line of said first set in the low impedance state and a conductive control line of said second set is sufficiently long such that an active threshold device will discharge to below an activation threshold thereby forming a deactivated threshold device, and an inactive or deactivated threshold device will charge beyond said activation threshold thereby forming an activated threshold device.

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18. (Currently amended) The display as recited in claim [[17]] 14, wherein said plurality of

said crossover points behave as variable capacitors, given that relative motion between the

conductors forming each of said plurality of crossover points causes a local distance between

said conductors to decrease, thereby increasing the capacitance in the vicinity of the crossover

point the time cycle is not long enough to sufficiently charge or discharge any one of the

remaining plurality of crossover regions formed by the high in line impedance remaining control

lines of said first set of conductive control lines and each control line of said second set of

conductive control lines past the activation threshold to switch from the inactivated state to the

activated state or past the deactivation threshold to switch from the activated state to the

inactivated state.

19. (Currently amended) The display as recited in claim 14, wherein the conductive control

lines in said second set of conductive control lines are equally split into two collinear, coplanar

halves with sufficient physical separation to ensure electrical isolation between them the two

halves thereby forming a first half set and a second half set, wherein the control lines in said first

set of conductive control lines are equally divided between the first half set and the second half

<del>set</del>.

20. (Currently amended) The display as recited in claim 14, wherein a polarity of a field

generated between conductive control lines of said first set of conductive control lines and the

conductive control lines of said second set of conductive controls lines are reversed in a cyclic

manner.

21. (Original) The display as recited in claim 20, wherein said polarity of said field is

reversed in said cyclic manner by driving a pair of comparators from a voltage divider and

oscillating a control logic signal distributed across appropriate reference potentials of opposing

polarity.

22. (Currently amended) The display as recited in claim 14, wherein each control line the

conductive control lines of said first set of conductive control lines [[is]] are driven at both ends

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from the <u>a common</u> first voltage signal source, and wherein each of the zero or more the <u>conductive</u> control lines of said second set of conductive control lines [[is]] <u>are</u> driven at both ends from a <u>common</u> second voltage signal source, and wherein each of the remaining control lines of said second set of conductive control lines is driven at both ends from a third voltage

signal source.

23. (Currently amended) The display as recited in claim [[19]]14, wherein a common

voltage potential is applied to all conductive control lines of said first set the first drive voltage is

applied to all control lines of said first set of conductive control lines, wherein the second select

mechanism applies the second drive voltage to zero or more control lines in said first half set and

the third drive voltage to the remaining control lines in said first half set, and wherein the second

select mechanism concurrently applies the second drive voltage to zero or more control lines in

said second half set and the third drive voltage to the remaining control lines in said second half

set, and wherein the first select mechanism adjusts the in line impedance of both a first selected

control line in said first half set and a second selected control line in said second half set to the

low in-line impedance state for the duration of the time cycle.

24. (Currently amended) The display as recited in claim [[14]]17, wherein each control line

of said first set of conductive control lines comprises a material configured to selectively change

its resistance across the entire control line

the activated threshold device at one crossover point is deactivated when a voltage difference between a voltage applied to the conductive control line of said first set and a voltage applied to the conductive control line of said second set is less than a deactivation threshold, and wherein

the deactivated threshold device at one crossover region is activated when a voltage difference between the voltage applied to the conductive control line of said first set and a voltage applied to the conductive control line of said second set exceeds the activation threshold, wherein the activation threshold is greater than the deactivation threshold.

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25. (Currently amended) The display as recited in claim [[24]]14, wherein each conductive control line of said first set of conductive control lines comprises a material configured to selectively change its resistance across the entire control line, wherein said material of said first set of conductive control lines changes its resistance upon application of an appropriate voltage difference between a first and a second conductive line spatially disposed on opposite sides of each control line of said first set of conductive control lines.

26. (Original) The display as recited in claim 25, wherein said material comprises doped perovskites.

## 27. (Currently amended) A system, comprising:

a processor;

a memory unit;

an input mechanism;

a display; and

a bus system for coupling the processor to the memory unit, input mechanism and display, wherein said display comprises:

a first set of parallel co-planar conductive control lines, wherein each <u>conductive</u> control line of said first set of conductive control lines has an adjustable in-line impedance configured to exhibit either a low in-line impedance state or a high in-line impedance state;

a second set of parallel co-planar conductive control lines, wherein said second set of conductive control lines are spaced apart in relation to said first set of conductive control lines, wherein a plane of said second set of conductive control lines is parallel to a plane of said first set of conductive control lines, wherein <u>conductive</u> control lines of said second set of conductive control lines cross over the <u>conductive</u> control lines of said first set of conductive control lines thereby forming a plurality of crossover <u>regions</u> <u>points</u> in an inactivated state, wherein each of the plurality of crossover <u>regions</u> <u>points</u> is operable to be actuated to an <u>activated state</u> <u>constituting a threshold device</u>;

a matrix of pixels overlapping between said first set of parallel co-planar conductive control lines and said second set of parallel co-planar conductive control lines;

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a first select mechanism coupled to said matrix of pixels, wherein said first select mechanism is configured to selectively adjust the in-line impedance of a selected control line of said first set of conductive control lines from the high in-line impedance state to the low in-line impedance state for a duration of a time cycle, whereas the in-line impedance of the remaining non-selected conductive control lines of said first set of conductive control lines have the high in-line impedance state; and

a first voltage signal source configured to simultaneously apply a first drive voltage to all control lines of said first set of conductive control lines to electrically charge said first set of conductive control lines; and

a second select mechanism coupled to said matrix of pixels, wherein said second select mechanism is configured to selectively apply (1) a second drive voltage to zero or more control lines of said second set of conductive control lines to electrically charge said zero or more control lines, and (2) a third drive voltage to the remaining control lines of said second set of conductive control lines to electrically discharge said remaining control lines,

wherein prior to the time cycle (1) all control lines of said first set of conductive control lines exhibit the high in-line impedance state, (2) the first drive voltage is simultaneously applied to all control lines of said first set of conductive control lines, (3) the second drive voltage is applied to the zero or more control lines of said second set of conductive control lines, and (4) the third drive voltage is applied to the remaining control lines of said second set of conductive control lines

a second select mechanism coupled to said matrix of pixels, wherein said second select mechanism is configured to encode activation data and selectively apply a high or low drive voltage to each conductive control line of said second set of conductive control lines, wherein the second select mechanism is configured to apply said drive voltages simultaneously, in parallel and in synchronization with the first select mechanism, such that:

at the non-selected conductive control lines of said first set, the high impedance state curtails rapid charge accumulation and the threshold devices at the crossover points do not traverse an activation threshold; and

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at the selected conductive control line of said first set, the conjunction of the high drive voltage and the low in-line impedance of the selected conductive control line of said first set causes the threshold device to charge to a value above the activation threshold, thereby turning the threshold device associated with that crossover point into an activated threshold device.

28. (Previously presented) The system as recited in claim 27, wherein said first select mechanism is further configured to selectively toggle each control line of said first set of conductive control lines between the high in-line impedance state and the low in-line impedance state.

29. (Currently amended) The system as recited in claim 28, wherein said first select mechanism further comprises:

a row select sequencer configured to select the selected control line and initiate the time cycle;

a clock mechanism configured to determine the duration of the time cycle wherein the selected control line is in said low in-line impedance state; and

a synchronizing mechanism configured to parallel load data to each control line of said second set of conductive control lines <u>in synchronization with the row select sequencer prior to</u> the time cycle.

30. (Currently amended) The system as recited in claim 27, wherein for the duration of the time cycle the first select mechanism adjusts the impedance of the selected control line to the low in line impedance state thereby making the selected control line addressable, and wherein during the time cycle each of the plurality of crossover regions formed by the low in line impedance selected control line and said zero or more control lines of said second set of conductive control lines actuates to the activated state by electrically charging each of said crossover regions so as to exceed an activation threshold, wherein during the time cycle each of the plurality of crossover regions formed by the low in line impedance selected control line and said remaining control lines of said second set of conductive control lines discharges to the inactivated state by

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electrically discharging each of said crossover regions below a deactivation threshold the time cycle for selectively charging and discharging said crossover point between a conductive control line of said first set in the high impedance state and a conductive control line of said second set is sufficiently short such that an active threshold device will not be deactivated and an inactive threshold device will not be activated, wherein said time cycle for selectively charging and discharging said crossover point between a conductive control line of said first set in the low impedance state and a conductive control line of said second set is sufficiently long such that an active threshold device will discharge to below an activation threshold thereby forming a deactivated threshold device will charge beyond said activation threshold thereby forming an activated threshold device.

- 31. (Currently amended) The system as recited in claim [[30]]27, wherein said plurality of said crossover points behave as variable capacitors, given that relative motion between the conductors forming each of said plurality of crossover points causes a local distance between said conductors to decrease, thereby increasing the capacitance in the vicinity of the crossover point the time cycle is not long enough to sufficiently charge or discharge any one of the remaining plurality of crossover regions formed by the high in line impedance remaining control lines of said first set of conductive control lines and each control line of said second set of conductive control lines past the activation threshold to switch from the inactivated state to the activated state or past the deactivation threshold to switch from the activated state to the inactivated state.
- 32. (Currently amended) The system as recited in claim 27, wherein the conductive control lines in said second set of conductive control lines are equally split into two collinear coplanar halves with sufficient physical separation to ensure electrical isolation between the two halves thereby forming a first half set and a second half set, wherein the control lines in said first set of conductive control lines are equally divided between the first half set and the second half set.

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33. (Currently amended) The system as recited in claim 27, wherein a polarity of a field

generated between conductive control lines of said first set of conductive control lines and the

conductive control lines of said second set of conductive controls lines are reversed in a cyclic

manner.

34. (Original) The system as recited in claim 33, wherein said polarity of said field is

reversed in said cyclic manner by driving a pair of comparators from a voltage divider and

oscillating a control logic signal distributed across appropriate reference potentials of opposing

polarity.

35. (Currently amended) The system as recited in claim 27, wherein each control line the

conductive control lines of said first set of conductive control lines [[is]] are driven at both ends

from the a common first voltage signal source, and wherein each of the zero or more the

conductive control lines of said second set of conductive control lines [[is]] are driven at both

ends from a common second voltage signal source, and wherein each of the remaining control

lines of said second set of conductive control lines is driven at both ends from a third voltage

signal source.

36. (Currently amended) The system as recited in claim [[32]]27, wherein a common voltage

potential is applied to all conductive control lines of said first set the first drive voltage is applied

to all control lines of said first set of conductive control lines, wherein the second select

mechanism applies the second drive voltage to zero or more control lines in said first half set and

the third drive voltage to the remaining control lines in said first half set, and wherein the second

select mechanism concurrently applies the second drive voltage to zero or more control lines in

said second half set and the third drive voltage to the remaining control lines in said second half

set, and wherein the first select mechanism adjusts the in line impedance of both a first selected

control line in said first half set and a second selected control line in said second half set to the

low in-line impedance state for the duration of the time cycle.

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37. (Currently amended) The system as recited in claim [[27]]30, wherein each control line

of said first set of conductive control lines comprises a material configured to selectively change

its resistance across the entire control line

the activated threshold device at one crossover point is deactivated when a voltage

difference between a voltage applied to the conductive control line of said first set and a voltage

applied to the conductive control line of said second set is less than a deactivation threshold, and

wherein

the deactivated threshold device at one crossover region is activated when a voltage

difference between the voltage applied to the conductive control line of said first set and a

voltage applied to the conductive control line of said second set exceeds the activation threshold,

wherein the activation threshold is greater than the deactivation threshold.

38. (Currently amended) The system as recited in claim [[37]]27, wherein each conductive

control line of said first set of conductive control lines comprises a material configured to

selectively change its resistance across the entire control line, wherein said material of said first

set of conductive control lines changes its resistance upon application of an appropriate voltage

difference between a first and a second conductive line spatially disposed on opposite sides of

each control line of said first set of conductive control lines.

39. (Original) The system as recited in claim 38, wherein said material comprises doped

perovskites.

40. (Currently amended) The addressing mechanism as recited in claim 1, wherein each of

the plurality of crossover regions points is operable to be actuated to the activated state by

applying a sufficient electrical charge to create a voltage difference across said first and second

conductive control lines in a region of the crossover region point so as to cause local movement

of one control line of said first and second conductive control lines towards the other control line

of said first and second conductive control lines.

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41. (Currently amended) The addressing mechanism as recited in claim 14, wherein each of the plurality of crossover regions points is operable to be actuated to the activated state by applying a sufficient electrical charge to create a voltage difference across said first and second conductive control lines in a region of the crossover region point so as to cause local movement of one control line of said first and second conductive control lines towards the other control line of said first and second conductive control lines.